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# Chinese Civil Defense: An Adjunct of Warfighting Potential

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A Research Paper

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March 1982

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# Chinese Civil Defense: An Adjunct of Warfighting Potential [redacted]

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**A Research Paper**

*Information available as of December 1981 has been used in the preparation of this report.*

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This research paper was prepared by [redacted] Comments and queries may be directed to the Chief, China External Division, Office of East Asian Analysis, [redacted] This paper was coordinated with the National Intelligence Officer for East Asia, the Office of Scientific and Weapons Research, and with the former Office of Geographic and Societal Research. [redacted]

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# Chinese Civil Defense: An Adjunct of Warfighting Potential [redacted]

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## Overview

Unlike the USSR and many Western powers, China intends its civil defense effort as a means to continue armed resistance, preserve manpower for military roles, and minimize damage to the nation's warmaking potential. China's multifaceted program has several specific objectives:

- Protect the leadership.
- Defend urban areas.
- Preserve scientific and technical personnel.
- Provide additional space for commercial or industrial use.
- Reduce losses to the industrial base.
- Shelter some of the general populace in the event of nuclear or conventional war. [redacted]

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The People's Liberation Army exerts firm control over China's civil defense system. Garrison commanders in important cities control civil defense through the militia commands and through the Municipal People's Air Defense (civil defense) Offices. These organizations build shelters, supervise civilian aspects of the system, and train the Armed Militia that will use the underground shelter system as part of an urban defense. Construction of shelters occurs throughout China, but emphasis is given to the major cities of northeastern China that together contain nearly 30 million people and possess almost one-third of the nation's industrial wealth. [redacted]

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Though China's civil defense preparations have important deficiencies, they provide a substantial measure of protection against enemy attack. Under most circumstances the Chinese could achieve several of their specific wartime objectives. Furthermore, control of the facilities by the PLA contributes to a coordinated and stubborn defense, raises the price in time and troops required for a successful Soviet invasion, and increases the prospects of a military stalemate favorable to China. [redacted]

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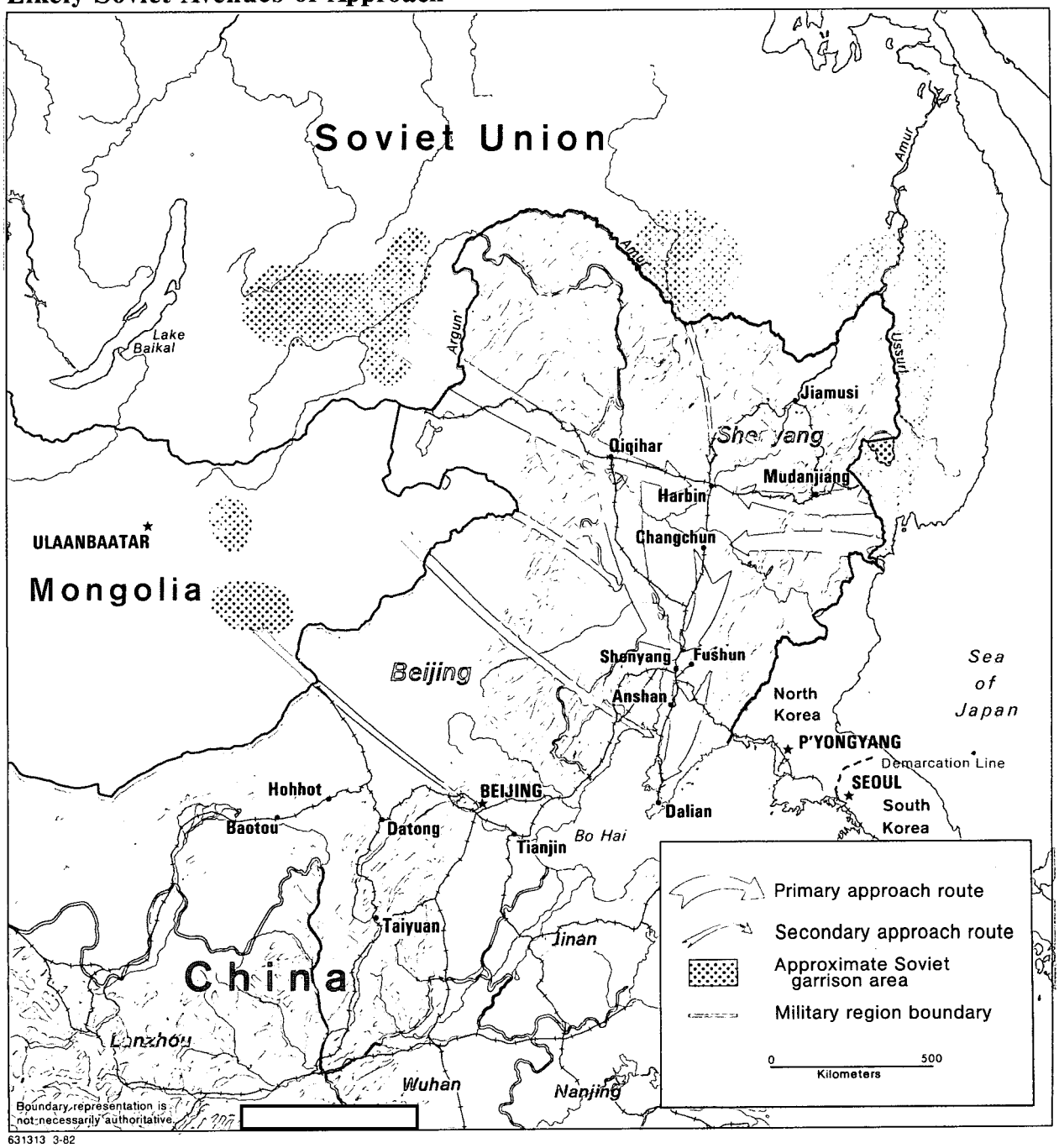
**Figure 1**
**Likely Soviet Avenues of Approach**

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# Chinese Civil Defense: An Adjunct of Warfighting Potential

## Role of Civil Defense in Chinese Strategy

*It is necessary to build our country's People's Air Defense system into an "Underground Great Wall" . . . for people to live in, engage in production, defend themselves, launch offensives, and carry out tunnel warfare and street fighting at the same time.*

*We should . . . build our strategic rear into a powerful, solid base . . . capable not only of supporting protracted war, but of fighting the war independently.*

*Xu Xiangqian*
*Former Minister of Defense*
*Army Day 1978*

Although the Chinese term for civil defense, *renmin fangkong* (literally, "people's air defense"), normally is translated as "civil defense," the Chinese meaning extends beyond the usual Western understanding of the term. In the West, civil defense implies passive measures to protect unarmed civilians from the effects of attack. Although the Chinese do intend their massive network of civil defense shelters and tunnels to protect civilians somewhat, the structures are built primarily to cover and conceal urban militia and PLA stay-behind troops who would conduct tunnel warfare and streetfighting. As such, civil defense preparations contribute to China's overall deterrent to conventional attack and help improve the PLA's prospects for stalling or defeating an invader.[1]

Chinese strategists believe that in an attack the Soviets would employ fast-moving armored forces to seize the principal cities of northeastern China that contain nearly 30 million people, the nation's political center—Beijing—one-third of the nation's industrial capacity including many key defense industries, and most of China's better rail lines (see figure 1 and annex). Acutely aware that existing PLA forces are no match for the highly mobile Soviet forces, the Chinese have chosen to trade space for the time required to move in massive reinforcements from central and southern China. The Chinese, however, hope to inflict on the Soviets the heaviest possible losses of men, materiel, and time and to prevent them from gaining control of the population, industrial wealth, and the important rail lines. To this end, they have built hundreds of miles of tunnels, shelters, and firing positions beneath key cities to enhance their defensive potential

Because the Chinese perceive the greatest threat to be to their political and industrial heartland in the northeast—the Beijing and Shenyang Military Regions—they have emphasized building shelters and tunnels in cities such as Beijing, Shenyang, Harbin, and Dalian. Many northeastern cities have tunnels capable of carrying vehicular traffic that support the interconnecting network of tunnels to be used by defenders. Although other important cities such as Shanghai, Guangzhou, Xi'an, and Chongqing have well-developed shelter systems, only that in Shanghai appears comparable to those in the north.

[1] China's intended use of tunnels and shelter systems in urban warfare is well described in an article entitled "Cities To Become Stalingrads in the Event of Invasion" carried in *Liberation Army Daily*, 17 April 1978:

*The major cities in the path of an enemy attack are prime objectives the aggressor wants to take and which have political, military, and economic significance for us. These cities have all been built up for many years and have strong ranks of workers . . . and many sturdy above-ground structures and underground construction works. Therefore, use of the cities is another aspect of adhering to an active defense. For these strategically important cities, there will be Stalingrad-like holding actions characterized by a powerful defense and a dogged fight. Cities which are significant to campaigns and battles must be held for a certain period of time. Defending the cities cannot be considered passive defense but rather a way to disperse and weaken the enemy in coordination with main force units which will destroy the enemy in mobile warfare*

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**Organization and Control**

***Command Structure.*** The military firmly controls China's civil defense system. The system's structure is part of the People's Liberation Army chain of command, thus ensuring that civil defense functions are coordinated with broad military plans. Orders originate in the General Staff Department (GSD) and flow downward through the military region and military district headquarters to the garrison commands in special cities (Beijing, Tianjin, Shanghai) and military subdistrict commands elsewhere (figure 5). Each region and district has a People's Air Defense Office, which is probably part of the PLA's Operations Department, to handle civil defense information. Command and control of the civil defense system appears to be well defined, though the rigid hierarchical system might slow the flow of orders and information in an emergency.

At the national level, the party's Military Commission establishes policy and provides guidance on civil defense.

the Military Commission also maintains a special account to aid construction and maintenance of shelters. Routine administration of civil defense programs is performed by the National People's Air Defense (civil defense) Leadership Group set up under the PLA General Staff Department.

The national leadership group, which is headed by a GSD officer and includes the chief of the PLA Engineer Corps, establishes technical standards for all civil defense construction and directs the system through People's Air Defense Offices at the military region and district levels. The leadership group studies foreign civil defense programs, arranges for specialized technical assistance to PRC civil defense by nonmilitary organizations such as the State Capital Construction Commission and Ministry of Health, and apparently acquires special civil defense materials such as blast doors, ventilation and water systems, and nuclear detection equipment that cannot be obtained easily through local supply channels.

The Municipal People's Air Defense Office is the key entity linking the national leadership group with its shelter complexes. Although the municipal office is under the administrative control of the municipal government, operationally it is subordinate to the local garrison commander and is headed by a PLA general officer. The municipal office prepares civil defense contingency plans for the city, supervises construction of civil defense shelters, and oversees requisite training. Its seven departments in effect determine the extent and quality of civil defense work at the lowest levels throughout the urban area.

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Each PLA garrison commander controls civil defense operations through two parallel structures, the District Arms Department and the Municipal People's Air Defense Office. Through the District Arms Department he commands all militia units in the area, and he heads or advises the municipal air defense office (often colocated with the District Arms Department), which manages the shelters and administers civilian participation in the civil defense program. Because the garrison commander has effective control over both the shelters and the militia that will defend them, defense within a city probably would be well coordinated and stubborn

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***Construction.*** Chinese civil defense construction has steadily improved in quality since the mid-1970s, when better materials and state-established construction standards became available. The Municipal People's Air Defense Office constructs civil defense shelters using militia labor, PLA engineers, plans and special materials furnished by Beijing, and local construction materials that meet the high national standards.[2] Over the last several years, there has been an upsurge in technical competence, standardized designs, and prefabricated structural components associated with tunnel construction as China has incorporated shelters

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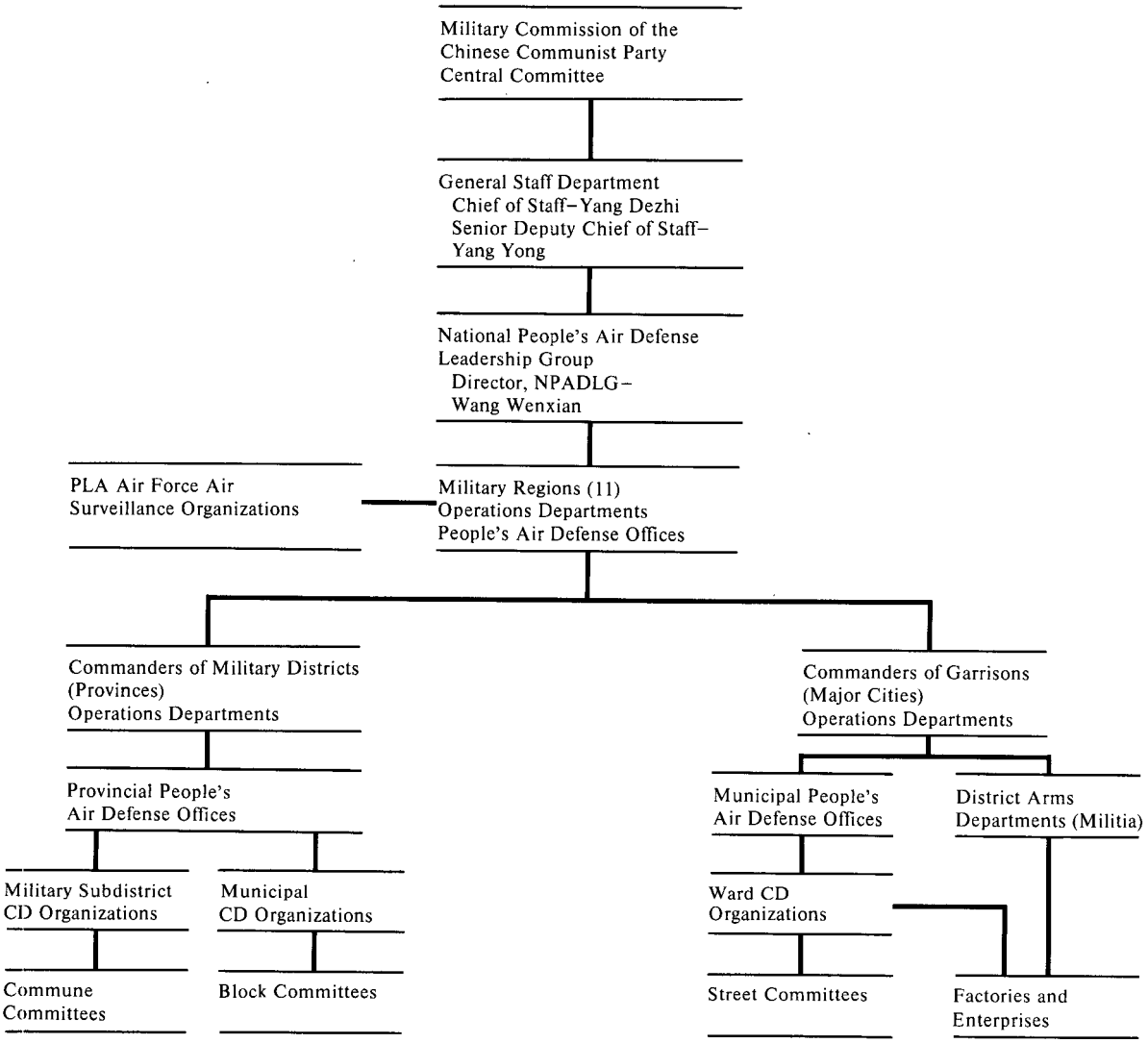
**Figure 5**

**Chinese Civil Defense Command Structure**

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into most new construction projects.[3] Once built, the underground facilities are linked by interconnecting tunnels, some of which can accommodate vehicular traffic.

***Warning and Alert Procedures.*** China depends on an extensive but only partially effective network of air surveillance radars and communications facilities to provide warning of an air attack. Chinese officials recognized the need for more timely relay of air surveillance information for civil defense as early as 1969.

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China probably could alert most of its civilians to an impending air attack once hostile aircraft were detected and their destinations predicted. A combination of traditional and modern communications systems seemingly could reach as much as 90 percent of the country's 1 billion people. China has developed extensive wire and microwave broadcasting systems, and an authoritative manual on public civil defense warning methods, *Air Defense Common Sense,* states that central and regional authorities, after learning of an imminent air attack, would inform and direct subordinate organizations via those systems. The manual further states that air raid warnings would be disseminated to the general public by radio, wire, television, and other devices—such as loudspeakers—in rural areas. An authoritative Chinese newspaper, *Guangming Ribao,* claimed that 93.1 percent of all production brigades and 87.6 percent of the production teams across the country had wire broadcasting facilities and that the number of wire broadcasting loudspeakers in use exceeded 100 million by early 1977. In addition, China's urban dwellers are served by an extensive public address system and most of them possess radio sets.

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**Effectiveness**

***Value in Defending Urban Areas.*** Chinese military planners believe that, if the Soviets moved into northern Manchuria, they would attempt to seize control of major railways to ease the logistical burden of supporting their rapidly advancing armored and mechanized forces. Nearly all the railways in the northeast, however, pass through large cities. In heavily built-up areas, such as the extensive industrial complexes surrounding Harbin and Changchun, armor would have limited usefulness. Hence, Soviet infantry most likely would be used to seize the cities and ensure control of the rails. The Chinese reason that Armed

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[3] A Chinese official, citing official policies of "combining peacetime with wartime" and "making one thing serve two purposes," pointed out that including shelters in all new building plans reduced construction costs, increased the space available for productive purposes, and above all provided better and deeper footings to improve the survivability of the structure in an earthquake.



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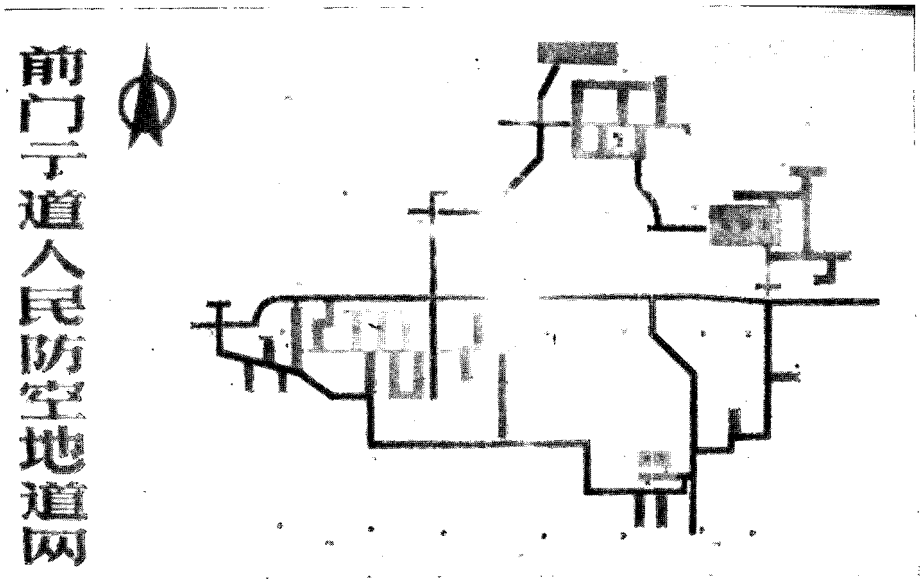
*Figure 6. Underground tunnel system, Qianmen District, Beijing.*

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Militia and PLA troops would be of considerable value in opposing enemy infantry from the buildings and streets of a major city.[6]

The urban shelter complexes—defended by troops and Armed Militia—would be used to hold the cities and impede the Soviet advance. The Chinese have taken care to construct fighting positions in many of their shelters. In addition, the shelters provide excellent cover and concealment and, because they often are linked together by underground passageways, would permit swift movement of troops and militia from one part of the city to another (see figure 6). In such circumstances, Soviet infantry might become bogged down in lengthy—and costly—street fighting that would slow the rate of advance and produce considerable battle losses. Bunkers would have to be taken street by street from tenacious Chinese defenders (see figure 7).

The alternative to securing the major cities would be semipermanent deployment of Soviet forces to surround and isolate them. If the Soviets were unwilling to pay the price of clearing the enemy from their shelters, they would face rear area security problems and degradation of their logistical support system. Chinese defenders could hold out almost indefinitely in their tunnels and bunkers against conventional bombing or artillery fire, though they might succumb to nuclear fallout or to attacks by chemical or biological weapons. Aside from the boost to morale and propaganda of holding a major city such as Harbin against the Soviets, a city's defenders would serve as a constant threat to the Soviet Army's rear, tying down units that could be used elsewhere. Additionally, the Soviets would have to forward bulky supplies such as petroleum and ammunition and to evacuate casualties with only limited use of the rails.

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[6] The militia consists of three components: Armed Militia, Backbone Militia, and Ordinary Militia. The Ordinary Militia has little if any military training and probably is of use primarily as corvee for construction projects. The Backbone Militia consists of some demobilized PLA soldiers and cadre. As such, it constitutes a manpower pool to replenish battle losses. The Armed Militia, a force of about 7 million, consists of PLA veterans and party personnel. It is reasonably well trained and would be the militia's primary contribution to urban defense.

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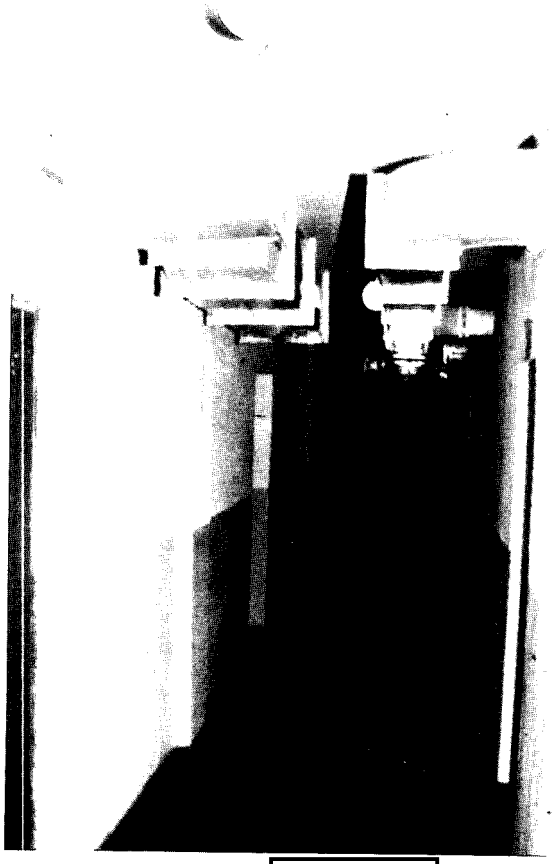

*Figure 8. Ventilation system*

*Figure 9. Newly designed concrete and steel door in shelter beneath Chinese Academy of Sciences.*

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China's lack of attention to civil defense training for the general public contrasts the occasional drills of the militia in urban defense. Chinese civil defense officials and the public apparently have not taken civil defense exercises seriously since about 1971, when training was more frequent. We judge that Beijing now believes that a Soviet attack is not likely within the next few years, and it probably wishes to reduce disruptions to production that would result from a more ambitious drill program. Continued improvements to the shelter systems, however, suggest that the Chinese still value them as a contingency measure should the threat of hostilities with the USSR increase.

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# Annex

## Demographic and Industrial Profile of Key Northern Cities

| Military District | City | Area (sq km) | Population | Major Industries |
|---|---|---|---|---|
| **Shenyang Military Region (17 percent of China's total industrial production)** | | | | |
| Heilongjiang | *Harbin* [a] | 150 | 2,500,000 | Electrical equipment, bearings, and heavy machinery. |
| | *Qiqihar* [b] | 55 | 1,000,000 | Railroad cars, machine tools, and heavy machinery. |
| | *Mudanjiang* | 20 | 500,000 | Tires and aluminum. |
| | *Jiamusi* | 20 | 400,000 | Aluminum. |
| | Anda | Fragmented | 650,000 | Oil (site of Daqing), refining, and petrochemicals. |
| Jilin | *Changchun* | 120 | 1,500,000 | Trucks and railroad cars. |
| | *Jilin* | 60 | 1,000,000 | Chemicals and iron and steel. |
| Liaoning | *Shenyang* [c] | 155 | 2,750,000 | Machine tools, heavy machinery, steel, and electronics. |
| | *Dalian* [d] | 80 | 1,500,000 | Shipbuilding, railroad cars, and diesel locomotives. |
| | Fushun | 85 | 1,500,000 | Coal, aluminum, steel, and oil refining. |
| | Anshan | 70 | 1,250,000 | Iron and steel. |
| **Beijing Military Region (13 percent of China's total industrial production)** | | | | |
| Beijing garrison | *Beijing* [e] | 200 | 5,000,000 | Machine tools, electronics, and iron and steel. |
| Tianjin garrison | *Tianjin* | 125 | 3,500,000 | Steel and electronics. |
| Shanxi | Taiyuan | 85 | 2,000,000 | Iron and steel, chemicals, and heavy machinery. |
| | Datong | 25 | 500,000 | Cement, diesel engines, and steam locomotives. |
| Nei Mongol | *Baotou* [f] | 50 | 1,000,000 | Iron and steel and aluminum. |
| | *Hohhot* [g] | 40 | 800,000 | Machinery and electronics. |

[a] Important producer of light tanks, military aircraft, and helicopters.
[b] Produces bulk of China's long-range artillery.
[c] Key producer of military aircraft and surface-to-air missiles.
[d] Important naval facilities are located here.
[e] Produces nearly all of China's armored personnel carriers.
[f] Leading producer of medium tanks and antiaircraft artillery.
[g] Producer of solid propellants for strategic missiles.

Italics denote cities with well-developed tunnel and shelter systems.

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